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# The correct typification of *Tradescantia crassula* (Commelinaceae)

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## Abstract

Here, we present evidence that the alleged correction of the typification of *Tradescantia crassula* recently proposed by Pellegrini, Forzza and Sakuragui is erroneous. Furthermore, we clarify misconceptions concerning the epitype of *T. crassula*, the specimen B-100521014, which was collected by Friedrich Sello in southern Brazil, and is not original material for *T. crassula*.

## Keywords

Humboldt, Kunth, Link & Otto, Sello

## Introduction

In their recently published article, Pellegrini et al. (2017) (hereafter: PFS) claim to make corrections to the typification of *Tradescantia crassula* Link & Otto (Commelinaceae) done by Funez et al. (2016) (hereafter: FHF). The objectives of this note is to present evidence that PFS's alleged "correction" is erroneous, and to clarify misconceptions concerning the epitype of *T. crassula*, the specimen B-100521014, which was collected by Friedrich Sello in southern Brazil, and is not original material for *T. crassula*.

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In their nomenclatural notes on this species, PFS (pp. 7–8) start affirming that FHF "indicate that Pellegrini (2015) erroneously designated the specimen *Sellow 3033* (B100521014) as the lectotype for *T. crassula*". This is not true, as FHF (p. 70) stated that "Pellegrini (2015) (a M.Sc. dissertation) incorrectly regarded the sheet kept in B (barcode B100521014) as the lectotype for the name *T. crassula*". No mention of "correcting" a typification was made by FHF, and the use of the word "regarded", instead of the more usual "designated", had the purpose of leaving clear that FHF were aware that the M.Sc. dissertation in question (Pellegrini 2015) was not a validly published document.

Next, PFS argue that the collector of the specimen B-100521014 (see fig. 5 in Funez et al. 2016) should be considered to be Friedrich Sello (also known as Sellow, which is not his family name but is how he signed his name after 1814), and that the year written on the label, 1836, does not refer to the collection date of the specimen, but rather to the date when Karl Sigismund Kunth would have received it in Berlin ("We believe this date might correspond to the date when this specimen was acquired by Kunth, and placed into his personal herbarium"). On this basis, PFS proposed the designation of the specimen B-100521014 as the lectotype for the name *T. crassula* and, according to them, this newly designated lectotype would supersede the lectotype designated for this name in FHF (p. 71), i.e., tab. 7 in Link and Otto (1828a) (see Fig. 1)—"According to the *Code* (McNeill et al. 2012, Art. 9.2), the *Sellow 3033* (B100521014) specimen is a suitable choice for a lectotype, superseding the lectotypification of the original illustration, done by Funez et al. (2016)".

Nevertheless, the interpretation of PFS of the type of *T. crassula* is erroneous. First of all, the authors cite the work that includes the protologue of *T. crassula* erroneously. The work cited, *Icones plantarum selectarum Horti Regii Botanici Berolinensis cum descriptionibus et colendi ratione* (Link and Otto 1828b), does not contain the description of *T. crassula*, which was in fact published in *Icones plantarum rariorum Horti Regii Botanici Berolinensis cum descriptionibus et colendi ratione*, vol. 1 (Link and Otto 1828a). The possibility that PFS have not read the protologue of *T. crassula* could perhaps explain the misunderstandings that these authors cause regarding the typification of this name.

A careful reading of the protologue of *T. crassula* (see Figs. 2 and 3) leaves clear that this species was described based on plants which grew from seeds included by chance in the soil transported along with living plants sent by Sello from Porto Alegre (southern Brazil) to Berlin ("Diese Pflanze ging aus der Erde, worin Herr Sello Pflanzen von Porto Allegro geschickt hatte, zufällig auf" [This plant grew by chance from the earth with which Mr. Sello sent plants from Porto Alegre]). Further evidence for this is that the illustration (tab. 7) provided by Link and Otto (1828a) (see Fig. 1) is in colour, and clearly shows a living specimen, and not a dried herbarium specimen. Also, there is absolutely no evidence that either Heinrich Friedrich Link or Christoph Friedrich Otto have studied any herbarium specimens to describe *T. crassula* (see more details below). Therefore, since the type of *T. crassula* was cultivated in Germany, and not collected in Brazil, it is evident that it was not collected by Sello, a fact that invalidates the entire line of discussion conducted by PFS to try to invalidate the correct lectotypification done by FHF.

**Figure 1.** Lectotype of *Tradescantia crassula* (tab. 7 in Link and Otto 1828a), designated in Funez et al. (2016: 71).

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# TRADESCANTIA CRASSULA.

## O. N. COMMELINEAE.

## HEXANDRIA MONOGYNIA.

T. caule procumbente, foliis oblongis lanceolatisque nervosis basi ciliatis, pedunculis geminis umbelliferis, umbellis terminalibus sessilibus, calyce hirsutissimo.

Habitat in Brasilia australi prope Porto Allegro. 2. T.

Caulis procumbens elongatus subsimplex teres glaber. Folia superiora lanceolata 3—4 poll. longa, ultra poll. lata acuta succulenta glabra basi tantum ciliata. Pedunculi gemini ex axillis elongati divaricati, flores umbellati copiosi, bracteis 2 lanceolatis fulti, pedicellis reflexis glabris. Cal. e phyllis tribus 4 lin. longis pilis longis. Cor. tripetala, petala calyce paullulum majora breviter acuta alba. Stam. 6 basi pilis septatis stipata corolla minora. Stylus staminibus longior, stigmate acuto. Germen triloculare.

Enata est planta e terra, in qua e Brasilia australi plantas miserat clar. Sello. Affinis Tr. debili Humb. et Kunth.

Fig. *a* sistit florem a parte superiore, Fig. *b* eundem ab inferiore.

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Der Stamm ist niederliegend, lang, fast einfach, rund und glatt. Die oberen Blätter sind lanzettförmig, 3—4 Zoll lang, über einen Zoll breit, nervig und dadurch liniirt, spitz und saftig, glatt, an der Basis nur gefranst. Die Blüthenstiele kommen aus den Blattwinkeln zu zwei, sind lang ausgesperrt, zwei solcher Blüthenstiele, ein sehr kurzer und langer, bilden das Ende des Stammes; die Blüthen sitzen in Dolden sehr zahlreich, mit zwei lanzettför-

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**Figure 2.** Protologue of *Tradescantia crassula*, page 1 (Link and Otto 1828a: 13).

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migen Bracteen gestützt; die besondern Blüthenstiele sind zurückgebogen und glatt. Der Kelch besteht aus drei, 4 Lin. langen Blättern, auf denen lange Haare sitzen. Die Blume besteht aus drei Blättern, welche etwas gröfser sind als der Kelch, kurz gespitzt, weifs. Die 6 Staubfäden haben an der Basis lange Haare mit Querwänden, sind kleiner als die Blume. Der Griffel ist länger als die Staubfäden. Die Narbe spitz. Fruchtknoten dreifächrig.

Diese Pflanze ging aus der Erde, worin Herr Sello Pflanzen von Porto Allegro geschickt hatte, zufällig auf. Sie liebt Feuchtigkeit und eine gewöhnliche leichte mit Sand vermischte Gartenerde. Die Blüthen erscheinen in der Regel zweimal im Jahre, im März und October. Die Vermehrung geschieht entweder durch Samen, oder durch abgeschnittene Zweige, die sehr leicht wachsen. Sie wuchert sehr stark, ihre Zweige breiten sich auf der Erde aus und wurzeln dann leicht. Den Sommer über kann sie im Freien gehalten werden, im Winter bedarf sie nur einer mäfsigen Temperatur von 8—10° R.

Fig. *a* stellt die Blumen von der obern Seite vor, Fig. *b* von der untern.

**Figure 3.** Protologue of *Tradescantia crassula*, page 2 (Link and Otto 1828a: 14).

The specimen B-100521014 (*F. Sello 3033*), which was designated epitype of *T. crassula* by FHF (p. 71), has a complex history and has been the source of much misunderstanding. This specimen was collected by Sello in the then province of São Pedro do Rio Grande do Sul (today state of Rio Grande do Sul, southern Brazil) in November–December 1825 (Urban 1893; Marchiori et al. 2016), and originates from the set of duplicates which Alexander von Humboldt received in 1836 for his herbarium from Ignaz von Olfers and which he immediately passed on to Kunth, who kept the specimen in his personal herbarium until his death in 1850 (Urban 1893; Robert Vogt, pers. comm.). The label was most probably written by Kunth (Robert Vogt, pers. comm.); the text in the lower right part of the label reads "*Humboldt ded.* [dedit] *1836*" [donated by Humboldt in 1836], and not "Dec. 1836" as wrongly reported by both FHF and PFS (Robert Vogt, pers. comm.). This date, which is eight years after the description of *T. crassula*, refers to when Humboldt received this specimen, and not when it was collected. All things considered, the specimen B-100521014 clearly is not original material for *T. crassula*, and as a result the lectotypification and epitypification

of this name proposed by FHF are correct and effective, in accordance to Arts. 9.2, 9.3, 9.8, 9.11, 9.12, 9.19, 9.20, 9.21, 9.22 and 9.23 of the Melbourne Code (McNeill et al. 2012).

On a final remark, PFS (p. 28) affirm that "many recent studies of Brazilian Commelinaceae have been narrowly focused, and proposed new species and several typifications (Funez et al. 2016; Hassemer et al. 2016a, 2016b; Hassemer 2017)" and that "perhaps the most unfortunate result of such studies is the potential for incorrect typification and application of names (e.g. Funez et al. 2016; Hassemer et al. 2016b; Hassemer 2017)". Here, we must highlight that their critiques are completely unrelated to the content of their own article, since, with the exception of Funez et al. (2016), all works criticised (Hassemer et al. 2016a, 2016b; Hassemer 2017) dealt with the genus *Commelina* L., and not *Tradescantia* L. Therefore, these critiques can be regarded as gratuitous attacks, which are certainly not an example to be followed. Taxonomy advances best and fastest when taxonomists behave ethically, and collaborate, among themselves and with scientists of other fields.

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## References

Funez LA, Hassemer G, Ferreira JPR (2016) Description of *Tradescantia schwirkowskiana* (Commelinaceae), a narrow endemic new species from Santa Catarina, southern Brazil, and typification of *T. crassula*. Phytotaxa 272(1): 63–72. https://doi.org/10.11646/phytotaxa.272.1.3

Hassemer G, Ferreira JPR, Funez LA, Medeiros JDM (2016a) *Commelina catharinensis* (Commelinaceae): a narrow endemic and endangered new species from Santa Catarina, southern Brazil. Phytotaxa 246(1): 49–60. https://doi.org/10.11646/phytotaxa.246.1.4

Hassemer G, Ferreira JPR, Funez LA, Aona LYS (2016b) Identity and typification of *Commelina vilavelhensis* (Commelinaceae), and typification of *C. robusta* and *C. scabrata*. Phytotaxa 260(2): 144–156. https://doi.org/10.11646/phytotaxa.260.2.4

Hassemer G (2017) Taxonomic and nomenclatural notes on neotropical *Commelina* (Commelinaceae), and an identification key for Brazil, Guyana, Paraguay, Suriname and Uruguay. Phytotaxa 303(2): 101–117. https://doi.org/10.11646/phytotaxa.303.2.1

Link JHF, Otto CF (1828a) Icones plantarum rariorum Horti Regii Botanici Berolinensis cum descriptionibus et colendi ratione, vol. 1. L. Oehmigke, Berlin, 96 pp, 48 tabs.

Link JHF, Otto CF (1828b) Icones plantarum selectarum Horti Regii Botanici Berolinensis cum descriptionibus et colendi ratione. Decker, Berlin, 128 pp., 60 tabs. http://dx.doi.org/10.5962/bhl.title.51952

Marchiori JNC, Pontes RC, Marchiori Neto DL (2016) Textos inéditos de Friedrich Sellow. 1 – Viagem às missões jesuíticas da Província de São Pedro do Rio Grande do Sul. Balduinia 51: 12–24. http://dx.doi.org/10.5902/2358198021422

McNeill J, Barrie FR, Buck WR, Demoulin V, Greuter W, Hawksworth DL, Herendeen PS, Knapp S, Marhold K, Prado J, van Reine WFP'H, Smith GF, Wiersema JH, Turland NJ (2012) International Code of Nomenclature for algae, fungi, and plants (Melbourne Code). Regnum Vegetabile 154. Koeltz Botanical Books, Oberreifenberg, 240 pp.

Pellegrini MOO (2015) Filogenia e revisão taxonômica de *Tradescantia* L. sect. *Austrotradescantia* D.R.Hunt (Commelinaceae). M.Sc. dissertation, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil.

Pellegrini MOO, Forzza RC, Sakuragui CM (2017) Novelties in Brazilian *Tradescantia* L. (Commelinaceae). PhytoKeys 80: 1–31. https://doi.org/10.3897/phytokeys.80.12232

Urban I (1893) Biographische Skizzen. I. Friedrich Sellow (1789–1831). Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie 17: 177–198.